## Semester II Courses for 2018-19

Core Course

1. Arun Nayak: Numerical methods, Mathematical methods, Research methodology

**Optional Courses:** 

- 2. Saptarshi Mandal: Adv CMP
- 3. Sanjib Kumar Agarwala: HEP
- 4. Kirtiman Ghosh: Special topics in HEP (Adv topics in particle Physics)
- 5. Sudipta Mukherji: Ciritical phenomena (Spl topics in Stat Mech)
- 6. Debasish Chaudhuri: Active matter physics (Special topics in Stat Mech)
  - 7. Manimala Mitra: QFT II

Of these, course 1 is mandatory.

Predocs are to choose two out the remaining 6.

In addition, each will have to do a project equivalnt to 2 courses.

For course outlines see the syllabus: https://www.iopb.res.in/ acad.aff For special courses

Sudipta Mukherji: Special topics in Stat Mech.

Details are here: https://www.iopb.res.in/mukherji/TEACHING/crit18.html Debasish Chaudhuri

Special topics in Statistical Physics (I'll cover active matter physics) active particles, active fluids and gels, motility induced transitions, etc.; shall discuss necessary background on soft-matter and non-equilibrium physics, if required)